impairment (OWI) indexes. Additional questionnaires on patients' characteristics and disease activity level, assessed on standardized scales: DAS28, PASI, CDAI, were added. Present economic activity (% of workers), presenteeism (time lost due to inefficient work), absenteeism (time of temporal absence caused by disease) and OWI ratios were calculated for each diagnostic group separately. **RESULTS:** Of the three groups, patients with RA had the lowest rate of economic activity – 42%. 56% of CD patients and 57% of Ps patients worked for pay. Furthermore, productivity loss measured with OWI was highest in RA group: 43% of work time was lost. It was slightly better in CD and Ps groups, OWI amounted to 36% and 35% respectively. RA group had the highest absenteeism rate (18%) and also high presenteeism rate (27%), Ps group had the lowest absenteeism rate (9%) and the highest presenteeism rate (28%), CD group ranked between them with 16% absenteeism rate and 24% presenteeism rate. **CONCLUSIONS:** RA, CD and Ps all cause productivity loss, each in a different manner. M2W study is a unique national data source for indirect cost analysis for RA, CD and psoriasis.

PMS28

THE ECONOMIC BURDEN ON THE SOCIAL SECURITY SYSTEM PENSIONS FOR MUSCULOSKELETAL DISORDERS IN ITALY

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OBJECTIVES: The aim of the study is to estimate the pension costs (social security system in Italy is financed by public expenditure) induced by patients with musculoskeletal disorders (MD) and specifically for rheumatoid arthritis (RA), ankylosing spondylitis (AS) and psoriatic arthritis (PsA) in Italy, between 2009 and 2012. **METHODS:** We analysed the database of National Institute of Social Security (INPS) for three types of social security benefits: disability benefits, disability pensions (for people with reduced work ability) and incapacity pensions (for people without work ability). A probabilistic model with a Monte Carlo simulation was developed in order to estimate for MD, RA, AS and PsA, the total costs of the three types of benefits. For the estimation of the productivity loss for RA in the 2012, economic data (cost of work day) were collected from the databases of the National Institute of Statistics (ISTAT) and absenteism data from national literature review (Censis, Anmar, SIR, 2008; Leardini 2002; Salaffi 2005). **RESULTS:** The model estimated a total costs of €311.534.554 ± €31.849.117 in the 2009 and €301.244.287 ± €33.871.230 in the 2012 for the disability benefits, €11.163.392 ± €3.047.946 in the 2009 and €10.560.086 ± €3.079.987 in the 2012 for the incapacity pensions and €136.473.625 ± €14.417.893 in the 2009 and €123.608.660 ± €13.734.418 in the 2012 for the disability pensions. The productivity loss for RA in the 2012 amounted to €1.145.377.593 ± €100.396.928. **CONCLUSIONS:** The most important indirect costs in Italy in 2012 was represented by disability benefits (68% of the total cost), followed by disability pensions (30% of total indirect cost). A better prescription appropriateness and rapid access to innovative treatments (Italy, among the EU Countries, is the one with the greatest delay in access) would reduce the costs incurred by the social security system accompanied by an improvement on the effectiveness of interventions.

PMS29

COST OF DRUG THERAPY FOR ANKYLOSING SPONDYLITIS IN THE BRAZILIAN PUBLIC HEALTH SYSTEM

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OBJECTIVES: We described the cost of the drug therapy for ankylosing spondylitis in the State of Minas Gerais, Brazil. **METHODS:** We analysed data from the Outpatient Information System during March 2010 and February 2011 of the Brazilian Public Health System (SUS). We applied the probabilistic record linkage to match registers of the same patient and performed the analysis under the SUS's perspective. We included patients over 18 years-old with diagnosis of ankylosing spondylitis who had begun the drug therapy after March 2010. We classified the patients in groups according to the initial therapy in anti-TNF agent users (infliximab, etanercept or adalimumab) or disease-modifying anti-rheumatic drugs-DMARD (the reference group). The cost was expressed in U.S. dollars. The analyses were performed with database manager system mysql and SPSS®19. **RESULTS:** We indentified 236 ankylosing spondylitis patients and 979 pharmacy claims. Mean age was 41.1 years (standard deviation 12.2) and most patients (70.0%) were men. Approximately 18% of patients withdrew the treatment. The total treatment expenditure in the study period was U$ 351,504.05; the cost with adalimumab represented 52.3% of this value. The estimated annual cost was U$ 117.53 for those who started sulfasalazine-DMARD treatment and ranged between U$ 3,251.08 and U$ 6,374.51 for anti-TNF drugs. The median individual cost was U$ 2,553.90 for patients who initiated infliximab, U$ 2,516.44 for adalimumab, U$ 1,406.08 for etanercept and U$ 49.08 for sulfasalazine-DMARD therapy. **CONCLUSIONS:** The cost of the anti-TNF agent treatment for ankylosing spondylitis is elevated. Therefore, the management of the public health system faces a challenge to offer an efficient and effectiveness patient care considering the limited public resources and the high demand for new health technologies.

PMS30

A PROSPECTIVE OBSERVATIONAL STUDY FOR EVALUATING THE COSTS AND CLINICAL EFFECTS OF PATIENTS WITH CHRONIC LOW BACK PAIN

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OBJECTIVES: To investigate both clinical effects and costs of acupuncture under general medical practice for patients with chronic low back pain (CLBP) in Korea. **METHODS:** A multicenter prospective observational study was performed. Outpatients with CLBP who received at least one acupuncture session in a Korean Medicine clinic during the study period were included and followed up for 3 months. All patients received regular acupuncture treatments in accordance with the doctors' discretion. The clinical effects were measured by condition-specific outcomes and preference-based outcome. In terms of cost analysis, the cumulative resource use for direct medical costs at each research clinic during the study period and direct patient data using the self-reported health care utilization questionnaires were used. **RESULTS:** A total of 105 patients were finally analyzed. Significant improvements in condition-specific and preference-based measures were observed after acupuncture treatment. An average of approximately $134 per patient was reported for direct medical costs in each clinic for one month (8.5 sessions) and $213 for three months (13.5 sessions). Other medical expenses related to CLBP were reduced during this period. **CONCLUSIONS:** Acupuncture to manage CLBP in general clinical practice in Korea, inexpensively improved pain, functional disability, and quality of life. The study results are meaningful and consistent with the results of previous randomized controlled trials performed in other European countries. A large-scale prospective cohort or registry based on practice may be helpful to strengthen the evidence of the cost-effectiveness of acupuncture.

PMS31

ECONOMIC EVALUATION OF SEQUENCING STRATEGIES IN THE TREATMENT OF PSORIATIC ARTHRITIS IN THE UNITED STATES

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OBJECTIVES: In the treatment of psoriatic arthritis (PsA), switching between alternative biologic treatments is common. A cost-effectiveness model was developed to assess the impact of placing apremilast, a new oral treatment, prior to biologics in PsA patients who had failed traditional DMARD therapy, from a U.S. payer perspective. **METHODS:** A lifetime Markov state transition cohort model was developed which compared two treatment sequences in the base-case: apremilast followed by adalimumab followed by etanercept vs. adalimumab followed by etanercept. Patients who failed etanercept were assumed to receive best supportive care (BSC) as the last line of treatment. Response to therapy was assessed using the Psoriatic Arthritis Response Criteria (PsARC) at the end of the clinical trial periods, ranging from 12 to 16 weeks depending on drug. Non-responders moved to the next line of therapy. A 16.5% annual drop-out rate was assumed for each drug. Treatment efficacy inputs were obtained from a meta-analysis and trial results. Drug costs were sourced from 2013 WAC prices, and a 3% annual discount rate was applied to costs and QALYs. Apremilast was assumed to be priced at a discount to biologics. Utilities were estimated from HAQ and PASI response using a previously published regression equation. **RESULTS:** The apremilast arm provided an additional 2.53 years with a PsARC response and an additional 0.78 QALYs. Total time spent on the biologics was reduced by 0.34 years and time spent in BSC was reduced by 2.85 years. Under base-case assumptions, placing apremilast before biologics was found to be the dominant strategy (costs reduced by $28,794). Sensitivity analyses indicated that several parameters (e.g. cost of BSC and baseline utility) influence the ICER. Similar results were obtained with different biologic drugs in the sequence. **CONCLUSIONS:** Placing apremilast before biologics is a cost-saving strategy in the treatment of PsA.

PMS32

ESTIMATING THE COST-EFFECTIVENESS OF CELECOXIB FOR OSTEOARTHRITIS IN CHINA

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OBJECTIVES: Osteoarthritis generally affects the joint functions of elderly patients causing significant pain and burden. There is no cure for osteoarthritis and treatments tend to aim to alleviate pain and slow the progression of the disease. This study estimates the cost-effectiveness of celecoxib for treatment of osteoarthritis in China. **METHODS:** The National Institute for Health and Clinical Excellence (NICE) developed a health economic model that was adapted to update the relative risks of adverse events using data from the CONDOR trial. This study localized the model to treatment patterns and costs in China. Comparators included celecoxib and diclofenac + PPI. The relative risks for adverse events were taken from the CONDOR trial. The base case patient was 55 years old. Treatment cycles were set to 3 months and the model ran for 180 cycles. Effectiveness was measured in quality-adjusted life years (QALYs). Costs and QALYs were discounted annually at 4.75%. Costs were reported in 2013 USD (1 USD = 6.07 RMB). **RESULTS:** For celecoxib vs. diclofenac + PPI, using adverse event relative risks from the CONDOR trial, celecoxib has a cost of $3,707 and 8.805 QALYs while diclofenac + PPI has a cost of $3,757 and 8.813 QALYs. The incremental costs and QALYs of celecoxib vs. diclofenac + PPI are -$49.45 and -0.009 QALYs respectively. The incremental cost-effectiveness ratio for diclofenac + PPI vs. celecoxib is $5,793. Drug costs account for 26% and 28% of the costs in the celecoxib and diclofenac + PPI arms, respectively. **CONCLUSIONS:** Celecoxib is a less costly alternative than diclofenac + PPI. The difference in QALYs between celecoxib and diclofenac + PPI is extremely small and through sensitivity analysis may not be significant.

PMS33

COST-EFFECTIVENESS OF RA BIOLOGICS IN THE TWO YEARS FOLLOWING INITIATION USING A VALIDATED CLAIMS-BASED ALGORITHM IN A UNITED STATES COMMERCIALLY INSURED POPULATION

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OBJECTIVES: To estimate the 2-year cost per year in response of biologics for Rheumatoid Arthritis (RA) among US commercially insured adults. **METHODS:** Adults (ages 18-63) newly initiating a biologic for RA (etanercept, abatacept, adalimumab, certolizumab, golimumab, and infliximab) were identified in the